

**Opinion of Dr. Richard J. Lee**

**In the matter of**

**In Re: W. R. Grace & Co., et al**

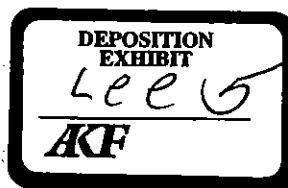
**Prepared for**

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Thus size and shape characteristics of the airborne fibers define the population as non-asbestos. The proof goes further, however. Comparison of the MAS width distribution (excluding bundles) with the distributions reported by Addison<sup>34</sup> demonstrates that the width distribution of the amphibole particles reported by Claimants' experts is substantially identical to that of the Shinness fibers – **a fiber population never shown to have any biological effects** – and much thicker than Jamestown fibers – **a fiber population that has been repeatedly shown to be highly potent**. See Figure 8.

The difference between the Jamestown fibers and the ZAI amphibole particles is obvious like the difference in the polished cross sections. The similarity between diameter distributions of the Shinness and ZAI fibers is also apparent. Equally important is the observation that less than 10 percent of the ZAI fibers have diameters below 0.3 micrometers, the diameter recognized by the most recent EPA-sponsored risk assessment as the diameter below which long fibers become highly toxic. Moreover, more than 90% of the ZAI particles have a diameter larger than 0.5 micrometers, the upper limit often reported for asbestos fiber diameter.

Thus, the analysis of the mineral populations observed in the simulations conducted by Claimants and by W. R. Grace leads to the inescapable conclusion that 90 percent or more of the mineral particles released when disturbing ZAI are non-asbestos cleavage fragments that should be excluded from the estimates of asbestos fiber concentration.

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<sup>34</sup> J. Davis, J. Addison, C. McIntosh, B. Miller, and K. Niven (1991). "Variations in the carcinogenicity of tremolite dust samples of differing morphology", Proceedings of the Collegium Ramazzini Symposium, New York, 1990. Annals of the New York Academy of Sciences; 643; p. 473 – 490.